

Claims

1. A method of testing a device of a mobile station, the method comprising:
generating (402) an electric test signal for testing a device; and
5 feeding (404) the electric test signal to the device by a feeding line;
c h a r a c t e r i z e d by
measuring (408) an electric quantity from the feeding line by a measurement unit integrated into the mobile station;
determining (410) an electric response of the device to the electric
10 test signal based on the electric quantity; and
performing at least a portion of the testing procedure by using a functional unit integrated into the mobile station, the testing procedure comprising generating the electric test signal and determining the electric response of the device.
- 15 2. The method according to any one of the preceding claims, c h a r a c t e r i z e d by evaluating (412) performance of the device based on the electric response.
3. The method according to any one of the preceding claims, c h a r a c t e r i z e d by connecting (406) the measurement unit to the feeding
20 line.
4. The method according to any one of the preceding claims, c h a r a c t e r i z e d by generating (402) the electric test signal by a signal generator integrated at least partially into the mobile station.
5. The method according to any one of the preceding claims,
25 c h a r a c t e r i z e d by determining (410) the electric response of the device to the electric test signal by an analyser integrated at least partially into the mobile station.
6. The method according to any one of the preceding claims, c h a r a c t e r i z e d by measuring (408) the voltage of the electric test signal
30 over the device; and
determining (410) the electric response of the device to the electric test signal, based on the voltage.
7. The method according to any one of the preceding claims, c h a r a c t e r i z e d by generating (402) a predefined electric test signal for
35 testing a device with a known electric response to the predefined electric test signal; and

evaluating (412) performance of the device based on the known electric response and the electric response of the device to the electric test signal.

8. The method according to any one of the preceding claims, characterized by measuring (408) the electric quantity by a measurement unit with an input impedance chosen such that the accuracy of the electric response of the device to the electric test signal is above a predefined value.

9. The method according to any one of the preceding claims, characterized by connecting (406) a measurement unit measuring the electric quantity to a feeding line of a device of plurality of devices; and measuring (408) the electric quantity from a feeding line of a device of plurality of devices.

10. The method according to any one of the preceding claims, characterized in that the device is a peripheral device.

11. An arrangement for testing a device of a mobile station, comprising:

a signal generator (230) for generating an electric test signal for testing a device (200, 202, 204);

20 a feeding line (210, 212, 214) connected to the signal generator (230) and the device (200, 202, 204) for feeding the electric test signal to the device (200, 202, 204);

characterized in that

25 the mobile station further comprises a measurement unit (240) connected to the feeding line (210, 212, 214) for measuring an electric quantity from the feeding line (210, 212, 214);

the mobile station further comprises an analyser (260) connected to the measurement unit (240) for determining an electric response of the device (200, 202, 204) to the electric test signal based on the electric quantity; and

30 at least a portion of a testing arrangement is integrated into the mobile station, the testing arrangement comprising the signal generator (230) and the analyser (260).

12. The arrangement according to claim 11, characterized in that the arrangement further comprises an evaluating unit (270) connected to the analyser (260) for evaluating performance of the device (200, 202, 204) based on the electric response.

13. The arrangement according to any of the preceding claims 11-12, characterized in that the mobile station comprises a switching unit (240) for connecting the measurement unit (240) to the feeding line (210, 212, 214).

5 14. The arrangement according to any of the preceding claims 11-13, characterized in that at least a portion of the signal generator (230) is integrated into the mobile station.

15 15. The arrangement according to any of the preceding claims 11-14, characterized in that at least a portion of the analyser (260) is integrated into the mobile station.

16 16. The arrangement according to any of the preceding claims 11-15, characterized in that the measurement unit (250) is configured to measure voltage of the electric test signal over the device (200, 202, 204); and the analyser (260) is configured to determine the electric response of the device (200, 202, 204) to the electric test signal, based on the voltage.

17 17. The arrangement according to any of the preceding claims 11-16, characterized in that the signal generator (230) is configured to generate a predefined electric test signal for testing a device (200, 202, 204) with a known electric response to the predefined electric test signal; and the evaluating unit (270) is configured to evaluate performance of the device (200, 202, 204) based on the known electric response and the electric response of the device (200, 202, 204) to the electric test signal.

18 18. The arrangement according to any of the preceding claims 11-17, characterized in that an input impedance of the measurement unit (250) is chosen such that the accuracy of the electric response of the device (200, 202, 204) to the electric test signal is above a predefined value.

19 19. The arrangement according to any of the preceding claims 11-18, characterized in that the mobile station comprises a plurality of devices (200, 202, 204) with a plurality of feeding lines (210, 212, 214);

20 21 the mobile station comprises a switching unit (240) for connecting the measurement unit (250) to the feeding line (210, 212, 214) of the device (200, 202, 204) of a plurality of devices (200, 202, 204) one at a time; and

22 the measurement unit (250) is configured to measure the electric quantity from the feeding line (210, 212, 214) of the device (200, 202, 204) from a plurality of devices (200, 202, 204).

20. The arrangement according to any of the preceding claims 11-19, characterized in that the device (210, 212, 214) is a peripheral device (130-156).